Teacher Information
Fisheries Management

I. OBJECTIVES

A. Forming Concepts (Introductory) Objectives

1. Explain what fisheries management is.
2. Explain why fisheries management is important.
3. Describe how fish populations are managed.

B. Interpreting Data Objectives

1. Determine the year that had the greatest and least fish landings (catches).
2. Describe the pattern of catches over a long period of time.
3. Determine the method of fishing that catches the most fish.

C. Applying Principles Objectives

1. Hypothesize the effects of better fishing methods on the long term landing (number of fish caught).
2. Explain why the commercial fishing license system should be continued.
3. Develop a list of illegal activities that should be reported to the National Marine Fisheries Service.

II. Interdisciplinary Uses

A. Social Studies

1. Predict the economic effects on people affected by fisheries management.
2. Graph the landing data for selected fish.

B. Math

1. Interpret graphical data.

C. Language Arts

1. Create written and oral communications about fisheries management.
2. Develop an explanation of the importance of fisheries management for third grade students.

III. Science Standards Coordination

The Fisheries activity has been designed to incorporate science standards as specified by the National Science Education Standards (NSES) and the National Science Teachers Association (NSTA) Scope, Sequence, and Coordination (SS&C) of Secondary School Science. Only the major topics are listed. For Further explanation of each standard see the complete documents:

NSES-National Academy Press, 2101 Constitution Ave, NW, Washington, DC 20481

NSTA - 1840 Wilson Blvd, Arlington, VA 22201-3000

NSES	SS&C
reproduction and heredity	niche, habitat, population, community
populations and ecosystems	life cycles
diversity and adaptations of organisms	patterns of reproduction
populations, resources, and environment	
natural hazards	
science and technology in society	

IV. Advanced Preparation

A. Materials

1. One computer per three or four students
2. One copy of the student activity book for each student or group of students

B. Time required to complete the activity

All times were approximated using a 14.4 kbs modem.
1. The Get Info section takes about 30 minutes.
2. The Gather Data section takes about 35 minutes.
3. The Applying Principles section takes about 35 minutes but does not require the use of the computer.

C. Teacher Familiarity

Preview these materials thoroughly. As with all these activities, before using this activity in class, review the sites and work through the activity yourself to learn about fisheries management so you can answer questions or direct the students to the answers.

The activity is set up so the students are taken to web sites containing information that will be used to answer questions regarding fisheries management. The sites contain either the answers or the information from which the students can infer the answers. At the end of the activity, there is a list of enrichment activities and related web sites.

D. Select questions for students to answer.

It would be prudent for you to read the questions students will be expected to answer. These questions are in order of ascending difficulty. Depending on grade level and ability level, you might want to assign specific questions for your students.

E. Student Grouping

These activities can be done individually or in small groups of up to four students. They can also be done at home for extra credit by students who are on-line at home.

F. Software Requirements and Duplication Preparation

1. Download Adobe Acrobat viewer for your platform (Mac or PC).
2. Download this instructor manual and the student activity book pages from the USA Fisheries Management introductory page.
3. Duplicate and distribute student pages. Each student should have a copy of the student activity book. Ideally, the student activity book should be distributed and discussed the day before the activity.